IN THE CLAIMS

1. (Amended) A control system for controlling and monitoring electronically controlled equipment comprising:

control means including a plurality of programs each having associated local storage memory, each of said programs operable to be executed independently of other of said programs to produce output data;

a database memory [having associated] comprising a plurality of memory elements for storing said output data; and

[a processor for executing each of said programs to produce new output date, said processor operable to transfer data stored in said memory elements to said associated local storage memory for use in execution of said programs and operable to transfer said new output data to said associated elements; and]

database managing means [for controlling the] operable to transfer [of the] data stored in one of said memory elements to one of said programs[, such that the data stored in said one of said memory elements is transferred to said one of said programs] only if the data stored in said [one of said] memory [elements] element has changed since a previous transfer to the local memory of said program of the data stored in said element.

Claim 3, line 3, delete "response", insert --responsive--.

9. (Amended) The control system of Claim 1 wherein said plurality of programs includes a communications program to [operably connect] provide data transfer between said database memory to [said] the electronically controlled equipment.

Claim 10, line 2, delete "a", insert --an--.

11. (Amended) A method for managing a database memory for monitoring and controlling electronically controlled equipment comprising the steps of:

[operating] receiving data from a plurality of programs independently of one another [to produce output data];

storing said [output] data in associated memory elements in [a first storage] the database memory;

[requesting] receiving requests from a program for a transfer of data stored in ones of said data elements to a second storage memory associated with [one of said programs] the requesting program;

determining which of said requested data stored in said ones of said data elements have changed since a previous transfer of said data stored in said ones of said data elements to the requesting program; and

transferring said data stored in said ones of said data elements which have changed since said previous transfer[; and

executing said one of said programs to produce new output data].

12. (Amended) The method of Claim 11 [and further comprising] wherein said step of determining comprises the step of reading status bits associated with said ones of said [data] memory elements and with said one of said programs, [wherein] said status bits [indicate] of a predetermined value indicating a change in said data element.

13. (Amended) The method of Claim 12 and further comprising changing said status bits in response to said [new output] received data being different than the previously data stored said associated memory elements to indicate that the data stored in memory element [associated with said new output data] has changed.

Claim 14, line 3, insert after "elements", --to an associated program--.

Claim 15, line 2, delete "output."

Claim 15, line 4, insert after "mathematical", --address--.

16. (Amended) A control system for controlling and monitoring electronically controlled equipment comprising:

control means comprising a plurality of programs and associated local storage memory, each of said programs operable to be executed independently of other of said programs to produce output data having associated index numbers and data types;

a database memory for storing said output data in memory elements corresponding to said index numbers and said data types associated with said output data;

status bits associated with each memory element, such that each memory element has an associated status bit for each of said programs;

a processor for executing each of said programs to produce new output data;

database managing means for controlling the transfer of data between said database memory and said local storage memory, said database managing means adjusting the value of ones of said status bits to a first predetermined value upon [storing new] changing the data stored in the data element associated with said ones of said status bits [or] and to a second predetermined value upon transferring data to one of said programs associated with ones of said status bits; and

said database manager operable to transfer data from one of said data elements to said local memory of one of said programs only when the status bit associated with both said one of said data elements and with said one of said programs [indicates that the data in said one of said data elements has changed since a previous transfer] has said first predetermined value.

END